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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/719,735	11/21/2003	Jonathan Samuel Minden	058432-5003US	3539

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KIRKPATRICK & LOCKHART PRESTON GATES ELLIS LLP  
535 SMITHFIELD STREET  
PITTSBURGH, PA 15222

EXAMINER
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VENCI, DAVID J

ART UNIT	PAPER NUMBER
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1641

MAIL DATE	DELIVERY MODE
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06/28/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/719,735

Applicant(s)

MINDEN, JONATHAN SAMUEL

Examiner

David J. Venci

Art Unit

1641

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on May 17, 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) 10-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 25-38 is/are rejected.
- 7) ☒ Claim(s) 8 and 9 is/are objected to.
- 8) ☒ Claim(s) 1-38 are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 05/17/07.
- 4) ☒ Interview Summary (PTO-413)  
Paper No(s)/Mail Date 20070511.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

Applicant files a request for continued examination under 37 CFR 1.114 after final rejection, including the fee set forth in 37 CFR 1.17(e). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action is withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 17, 2007, is entered.

Currently, claims 1-9 and 25-38 are under examination. Claims 10-24 are directed to a non-elected invention and remain withdrawn from consideration pursuant to 37 CFR 1.142(b).

### *Claim Objections*

Claims 8 and 9 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of base claim 1. Specifically, since base claim 1 does not appear to require a "biomolecule", Applicant's attempt to further limit said "biomolecule" in claims 8 and 9 appears nonsensical.

Applicant is required to cancel the claims, amend the claims into proper dependent form, or rewrite the claims in independent form.

Art Unit: 1641

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 5-9, 25 and 27-38 are rejected under 35 U.S.C. 102(e) as being anticipated by Shen & Heiati (US 6,590,071).

Shen & Heiati describe biomolecule capture device (see Abstract, third sentence, “pharmaceutical compositions comprising lipidized conjugates”) comprising:

(a) a substrate having a surface (see col. 10, line 20, “liposomes”); and

(b) a maleic anhydride compound (see col. 6, Formula II)

covalently bound to the surface of the substrate through a functional group (see *e.g.*, col. 6, Formula II, “X”, “R<sup>3</sup>”) at one of a 2 or 3 position of the maleic anhydride;

the maleic anhydride compound having an exposed carbonyl (see col. 6, Formula III) covalently bonded to a biomolecule (see col. 5, Formula I, “R<sup>4</sup>”, “R<sup>5</sup>”)

With respect to claim 7, Shen & Heiati describe a solid support (see col. 13, line 28, “binders”) to which the substrate binds.

Art Unit: 1641

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness<sup>1</sup> rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-9 and 25-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boucher (US 6,264,975) in view of Shen & Heiati (US 6,590,071).

Boucher describes a biomolecule capture device (see col. 5, line 40, "nose") comprising:

(a) a substrate having a surface (see Title, "mucosal surface");

Boucher's device does not have a maleic anhydride compound covalently attached to the surface.

However, Shen & Heiati describe maleic anhydride compounds (see col. 6, Formula II) covalently attached (see e.g., col. 6, Formula II, "X", "R<sup>3</sup>") to liposome surfaces (see col. 10, line 20, "liposomes").

It would have been obvious for a person of ordinary skill to complement Boucher's device with Shen & Heiati's maleic anhydride compound because Shen & Heiati discovered compounds capable of sequentially penetrating biological membrane, and thereafter, releasing drugs (see Abstract).

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<sup>1</sup> In the Supreme Court decision *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), the Court set forth factual inquiries establishing a background for determining obviousness under 35 U.S.C. 103(a). The factual inquiries include: (1) determining the scope and contents of the prior art; (2) ascertaining the differences between the prior art and the claims at issue; (3) resolving the level of ordinary skill in the pertinent art; and (4) considering objective evidence indicating obviousness or nonobviousness.

### ***Response to Arguments***

#### *Specification*

In prior Office Action, Examiner objected to the disclosure for reciting the terms "half life" of binding or "half life" of release. In addition, Examiner objected to the specification for failing to provide proper antecedent basis for the claimed "substrate comprising a polymer" recited in claims 2 and 28.

During an in-person interview with Applicant and Applicant's representative on May 11, 2007, Applicant observed that, according to M.P.E.P. 2164, the specification must enable the invention as defined by the claims, and that the claims do not recited either the terms "half life" of binding or "half life" of release. In addition, Applicant directed Examiner's attention to the paragraph bridging pp. 4-5 for support for the claimed "substrate comprising a polymer" recited in claims 2 and 28.

These objections are withdrawn in view of Applicant's persuasive argumentation.

#### *Prior Art Claim Rejections*

In prior Office Action, claims 1-3, 5-9, 25 and 27-38 were rejected under 35 U.S.C. 102(b) as being anticipated by Schuck & Wildi (US 3,679,653). Claims 4 and 26 were rejected under 35 U.S.C. 103(a) as being unpatentable over Schuck & Wildi (US 3,679,653) in view of Schmincke-Ott. & Bisswanger, 10 PREP. BIOCHEM. 69 (1980) (abstract only).

During an in-person interview with Applicant and Applicant's representative on May 11, 2007, Applicant persuasively argued that Schuck & Wildi do not teach Applicants' claimed "maleic anhydride" on a surface because Schuck & Wildi describe a polymerization process wherein "maleic anhydride" is converted to succinic anhydride (see PTOL-413 – Interview Summary, Paper No. 20070511, attached herewith).

These rejections are withdrawn in view of Applicant's persuasive argumentation.

Art Unit: 1641

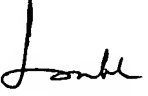
**Conclusion**

No claims are allowable at this time.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David J. Venci whose telephone number is 571-272-2879. The examiner can normally be reached on 08:00 - 16:30 (EST). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on 571-272-0823. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

David J Venci  
Examiner  
Art Unit 1641

djv

  
LONG V. LE 02/21/07  
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